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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,180	03/08/2006	Debra Mohnen	14-03	5006
23713 7590 04/09/2007 GREENLEE WINNER AND SULLIVAN P C 4875 PEARL EAST CIRCLE SUITE 200 BOULDER, CO 80301			EXAMINER WORLEY, CATHY KINGDON	
			ART UNIT	PAPER NUMBER
			1638	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
31 DAYS		04/09/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/544,180	Applicant(s) MOHNEN ET AL.	
	Examiner Cathy K. Worley	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 3(in part) and claims 1-2, 4-5, 11-13, and 16, drawn to an isolated nucleic acid encoding a polypeptide having galacturonosyltransferase (GalAT) activity, including a nucleic acid encoding SEQ ID NO:2, and to an expression vector and a transgenic plant comprising said nucleic acid.

Groups II-XXV, claim(s) 3(in part) and claims 1-2, 11-13, and 16, drawn to an isolated nucleic acid encoding a polypeptide having galacturonosyltransferase (GalAT) activity, including a nucleic acid encoding a specified amino acid sequence, and to an expression vector and a transgenic plant comprising said nucleic acid; wherein the specified amino acid sequence for Groups II-XXV is the even numbered sequences from SEQ ID NOs: 4-50, respectively.

Group XXVI, claim(s) 7 (in part) and claims 6 and 8-9, drawn to an isolated polypeptide having GalAT activity, wherein the polypeptide has approximately 50% amino acid sequence similarity with SEQ ID NO:2, including the polypeptide of SEQ ID NO:2.

Groups XXVII-L, claim(s) 7 (in part) and claim 6, drawn to an isolated polypeptide having GalAT activity, wherein the polypeptide has approximately 50% amino acid sequence similarity with SEQ ID NO:2, including the polypeptide with a specified amino acid sequence; wherein the specified amino acid sequence for Groups XXVII-L is the even numbered sequences from SEQ ID NOs: 4-50, respectively.

Groups LI-LXXV, claim(s) 10 and 24, drawn to an antibody which specifically recognizes a specified polypeptide; wherein the specified polypeptide for Groups LI-LXXV is the polypeptide of the even numbered sequences from SEQ ID NOs: 4-50, respectively.

Group LXXVI, claim(s) 14, drawn to a transgenic plant having modified pectin.

Group LXXVII, claim(s) 15, drawn to a transgenic plant having altered GalAT activity, wherein the altered activity is due to a mutation in the GALAT gene.

Group LXXVIII, claim(s) 17-18, drawn to a modified pectin and a product comprising said modified pectin.

Group LXXIX, claim(s) 19, drawn to a method of generating a plant with altered GalAT activity by mutating the GALAT gene.

Group LXXX, claim(s) 20-23, drawn to a method of preparing a polymer comprising a galacturonic acid and a polymer with a GALAT protein under conditions suitable to form at least one covalent linkage between the galacturonic acid and the polymer.

2. The inventions listed as Groups I-LXXX do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking groups I-LXXX is a galacturonosyltransferase enzyme (GalAT) or a nucleic acid encoding it, an antibody binding it, or a pectin produced by it. Shinn et al. teach a GalAT enzyme and the nucleic acid encoding it in GenBank Accession AY039515 (June 20,2001). Therefore, the technical feature linking the inventions of groups I-LXXX does not constitute a special technical

feature as defined by PCT Rule 13.2 as it does not define a contribution over the prior art.

Accordingly, Groups I-LXXX are not so linked by the same or a corresponding special technical feature as to form a single general inventive concept.

3. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy K. Worley whose telephone number is (571) 272-8784. The examiner is on a variable schedule but can normally be reached on M-F 10:00 - 4:00 with additional variable hours before 10:00 and after 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg, can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CKW

CYNTHIA COLLINS
PRIMARY EXAMINER

Cynthia Collins
4/2/07